FIND		FORMULA
Force (F) pressure x area		F = P x A
Compression Ration (CR)		$\frac{\text{PSI (operating pressure)} + 14.7}{14.7}$
Cylinder Air Consumption (CFM)		$\frac{\text{Volume of Cylinder x Cycle Rate}}{1728}$
Standard Cubic Feet Minute (SCFM)	cubic feet per minute x compression ratio	CFM x CR = SCFM
Cylinder Air Consumption (SCFM) OR		$\frac{\text{Volume of Cylinder x Cycle Rate}}{\text{Cycle Time x } 28.8}$
Cylinder Air Consumption (SCFM)		$\frac{\text{CR x Volume x Cycles Per Minute (x2 if double acting)}}{1728}$
CPM Maximum Number of Cycles w/ Air Supply		$\frac{\text{SCFM x } 1728}{\text{CR x Volume (x2 if double acting)}}$
Cycle Time per Stroke		$\frac{\text{Volume (retract, extend or both) x CR}}{\text{SCFM x } 28.8}$
Average Velocity F/M (feet per minute)		$\frac{\text{Stroke x } 5}{\text{Extend Time + Retract Time + Dwell Time}}$
Average CFM		$\frac{\text{Area x F/M (feet per minute)}}{144}$
Cv (when P2 is less than 10% of P1)	$\frac{\text{SCFM x}}{22.7}$	$\frac{\text{F (temp)} + 460}{\sqrt{(P1 + 14.7) - (P2 + 14.7) \times (P2 + 14.7)}}$
Cv (when P2 is 10-25% greater than P1)	$\frac{\text{SCFM x}}{22.7}$	$\frac{\text{F (temp)} + 460}{\sqrt{(P1 + 14.7) - (P2 + 14.7) \times \frac{(P1 + 14.7 + P2 + 14.7)}{2}}}$
Time Compressor Can Maintain Set Pressure (T)		$\frac{\text{Cubic Feet x (P1 - P2)}}{\text{14.7 x SCFM}}$
Receiver Volume to meet demands before recharging		$\frac{\text{T x 14.7 x SCFM}}{(P1 - P2)}$
Compressor Output (CFM)		